

REMARKS

Claim Rejections - 35 U.S.C. § 102 and § 103

The Examiner has rejected claims 1-5, 13-15, and 23-25 under 35 USC 102(b) as unpatentable over Hussein et al. (U.S. Patent No. 6,329,118). The Examiner has rejected claims 1-25 under 35 USC 102(e) as unpatentable over Chae et al. (U.S. Patent Publication No. 2005/0029229). The Examiner has rejected claims 6-12, and 16-22 under 35 USC 103(a) as unpatentable over Hussein et al. (U.S. Patent No. 6,329,118) as applied to claim 1-5, 13-15, and 23-25 in combination with Chae et al. (U.S. Patent Application Publication No. 2005/0029229). The Applicant respectfully traverses. The cited references, either individually or in combination, fail to teach or render obvious each of the claimed elements of the Applicant's invention. In particular, the cited references fail to teach the element of independent claim 1 of "*altering the composition of the SLAM by altering the carbon to silicon ratio of the SLAM to provide a changed dry etch rate for the SLAM such that the dry etch rate of the altered SLAM is approximately equal to the dry etch rate of the ILD material*", the element of independent claim 13 of "*altering the composition of the SLAM by introducing carbon in a cyclic or a cage form to increase or decrease its etch rate such that the etch rate of the altered SLAM matches the etch rate of the dielectric material*", and the element of independent claim 23 of "*altering the composition of a SLAM by adding a fluorine-containing additive to provide a changed dry etch rate for the SLAM such that the changed etch rate of the altered SLAM is approximately equal to a dry etch rate of an interlayer dielectric (ILD) material.*" In contrast, Hussein simply teaches ensuring that the dry etch selectivity of the sacrificial material to the dielectric layer is close to 1:1 when selecting the kind of dye used in the sacrificial material (Col. 6 lines 34 – 39) and fails to suggest intentionally altering the composition of the sacrificial material specifically to alter the dry etch rate of the SLAM. Chae teaches in paragraph [0023] that the SLAM layer 104

should have dry etch properties similar to those of dielectric layer 103 during trench etch. But, nowhere does Chae teach a method of altering the composition of the SLAM to make the dry etch properties of the SLAM similar to the etch properties of the dielectric layer. Chae merely teaches an etchant gas mixture that includes fluorine in paragraph [0012], changing the composition of the dielectric layer 103 in paragraph [0020], a particular type of SLAM that may be use in paragraph [0024], and the potential that the oxygen from an ashing step may deplete oxygen from the dielectric layer in paragraph [0027]. Therefore, the Applicant respectfully submits that the cited references, either individually or in combination, fail to teach or render obvious each of the claimed elements of the independent claims 1, 13, and 23 and the claims that depend upon and incorporate the elements of those independent claims.

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If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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